

APPENDIX C

DATA STANDARDIZATION DETAILED PROCEDURES

A. CONCEPTS AND TERMS

1. Abbreviations and Acronyms

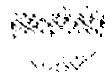
a. The use of abbreviations and acronyms provides a convenient mechanism interrogating a database. Full words require an excessive number of keystrokes and can be difficult to spell correctly.

b. Abbreviations and acronyms will be used to reduce full word names to appropriate environment constrained names (data-names). Reducing the length of data-names is important to analysts, designers and programmers who must produce documentation and code using standard data-names.

c. In addition, the use of abbreviations and acronyms will:

- (1) Promote consistency
- (2) Promote shareability
- (3) Facilitate accuracy of automated queries
- (4) Minimize deviations
- (5) Promote data integrity
- (6) Minimize redundancy
- (7) Reduce keystroke entry

d. Proposed abbreviations and acronyms must be submitted to the DoD DAd according to the procedures in "To Be Developed."



2. Class Name

a. A class name is a word which defines the specific class of data (e.g., DIMENSION, IDENTIFIER, CODE, etc.) that will be stored in data items of a standard data element associated with a particular generic element. Each generic element name (and thus, each standard data element name, by default) must have one and only one class name.

b. Most, if not all, data entities can be classified into specific categories of information. A specific category may be thought of as the answer to the question “What is it?” The answer might be a ‘code,’ a “date,” an “amount,” or, a line of ‘text.’ These words are known as class names.

c. With class names we can conceptualize what type of data composes the data composes entity. For example:

| | |
|------------|---|
| (1) Code | Symbolic representation (Numbers, letters and/or special characters) |
| (2) Amount | Dollars, currency, money |
| (3) Text | Free-flow of words and/or alphanumeric characters |

| | |
|----------------------|--|
| Example: | Data entity=BUDGET |
| Question | = What is the information being maintained about the BUDGET? |
| Answer class name | = The data the budget was effective = DATE |
| Answer class name | = the total dollars budgeted = AMOUNT |
| Answer class name | = A brief description of each major item = TEXT |

d. Class names should be mutually exclusive and totally exhaustive.

e. A predetermined list of class names will be centrally controlled and maintained by Data Administration. Restricting the number of class names to certain predetermined words allows greater rigor in the control of synonyms.

f. Requests for additions and/or deletions must be submitted to Data Administration according to the procedures in "To Be Developed."

3. Data Definition

a. A data definition provides a means for achieving uniform and consistent identification of data having a common interpretation throughout the organization.

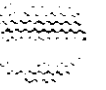
b. This commonality and shareability will be achieved by describing the data in terms of what it is; rather than how it is used, where it is used, when it is used, who uses it or how it is constructed. How used, where used, when used, who uses or how constructed are additional pieces of important information that will be captured as separate attributes, not part of the definition.

c. A rigorous data definition will ensure that data will reflect a cohesive concept. Cohesion means that there is one and only one concept that has one and only one function. By maximizing cohesion, we design more modular, reusable and portable data.

d. A rigorous data definition will also ensure data integrity. Integrity means that data will be defined and used for one and only one purpose.

4. General Element

A generic element is a structure that identifies the specific domain of data items or data values used to specify a concept which facilitates understanding to all observers of the data in use. Its name and definition must reflect what the generic element is rather than how, when, or where it is used to describe some object. A generic element must have at least one standard data element (use) to be valid. A generic element alone has no functional or application context. For example, "DATE may be a generic element; its structure would be YYYYMMDD (where "Y" represents a year digit, "M" represents a month digit, and "D" represents a month digit, and "D represents the day-or-month digit). Any standard data element that uses the generic element "DATE" has the same structure.



5. Modifier

A modifier is a word that describes, modifies, or further explains a noun. Modifiers are used to fully explain data and make each data entity name unique.

6. Prime Object Name (PON)

a. A prime object name is a noun used to identify the primary object (entity) (i.e., person, place, thing, or concept) of interest. Not all nouns are prime object names. Ideally, prime object names are determined during an information engineering effort (enterprise models, logical models, etc.) as those objects in which the organization has significant interest.

b. Including the entity/subentity in a data entity name:

(1) Establishes a Horizontal Integration of data.

(Example: All data entities relating to the entity EMPLOYEE will carry EMPLOYEE as a prime word.)

(2) Establishes an audit trail throughout the entire resource development life cycle. (Strategic -> Tactical -> Operational -> Historical)

(3) Provides a basis for developing a general-to-specific classification scheme based on business usage.

(4) Provides a primary search identifier when querying a database system.

c. A predetermined list of prime object names will be centrally developed, controlled, and maintained by DoD Data Administration. Restricting the number of prime object names to certain predetermined words allows greater rigor in the control synonyms.

d. Requests for additions and/or deletions must be submitted to Data Administration according to the procedures in "TO Be Developed".

7. Qualifier

A qualifier is a word or combination of words used to further describe the

characteristics of how the data values specified by the class name are measured (e.g., INCHES, POUNDS, BARRELS, PER-MAN, etc.). All quantitative class names - AMOUNT, AREA, DIMENSION, TEMPERATURE, VOLUME and WEIGHT - require a qualifier. RATE may require a qualifier.

8. Standard Data Element

A data element describes a single characteristic of an object and consists of one data value, never a set of values or a concatenation of values. That one data value is taken from a range of values (a domain). A standard data element is a data element which has been made standard by the fact that it was derived from a data model and the standard data element's attributes were standardized according to the data standard outlined in this appendix.

B. DATA STANDARDS AND CONVENTIONS

1. Abbreviation Standardization Rules/Guidelines

a. Abbreviation Rules

(1) RI: If the word has an abbreviation that has been approved by the DoD Data Administrator, use the abbreviation.

(2) R2: If the word has no approved abbreviation, use the following guidelines to formulate a candidate abbreviation.

b. Abbreviation Guidelines

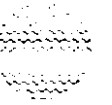
(1) G1: Avoid developing abbreviations for words of four or fewer characters.

(2) G2: Each abbreviation must be unique.

(3) G3: An abbreviation will not duplicate an approved acronym.

(4) G4: Do not develop abbreviations for Product acronyms (i.e., do not abbreviate AMDAHL, COBOL, etc.).

(5) G5: The abbreviation of a single word will not contain hyphens,



underscores or other special characters.

(6) G6: The abbreviation of a word should begin with the same letter as the word being abbreviated. The order of characters in the abbreviation should parallel the order of letters in the word.

(7) G7: Generally, an abbreviation is formed by eliminating the vowels from a word, unless the vowel begins the word.

(8) G8: If a double consonant appears in the abbreviation, drop one of the consonants.

(9) G9: If the abbreviation contains a “ck”, drop the “c” (except when ‘c’ begins the word).

(10) G10: If the word contains a hyphen, drop the hyphen and derive an abbreviation for the concatenated word.

(11) G11: Alternatively, check an abbreviation reference source such as, *Acronyms, Initialisms, and Abbreviation Dictionary*, edited by Julie E. Towell and Helen E. Sheppard, Grace Research Company, Detroit, MI.

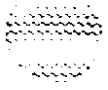
2. Acronym Standardization Rules/Guidelines

An acronym is derived from the initial letter or letters of successive parts of a compound term (e.g., RADAR, for Radio Detecting and Ranging). Often, acronyms result in a “catch phrase” that is more easily said aloud than its full words. Acronyms significantly reduce the number of characters used in creation of the abbreviated name. ‘

a. Acronym Rules

(1) R1: If the compound term has an acronym approved by the DoD Data Administrator, use the acronym.

(2) R2: If the compound term has no approved acronym, use the following guidelines to formulate a candidate acronym.



b. Acronym Guidelines

(1) G1: Do not develop a new acronym for the same series of words if an acronym has already been accepted.

(2) G2: Do not develop an acronym that duplicates an approved abbreviation.

(3) G3: Do not develop an acronym that duplicates a class name abbreviation. Class names and class name abbreviations are reserved.

(4) G4: Do not develop an acronym that duplicates a prime object name or prime object name abbreviation.

(5) G5: Acronyms must not contain hyphens, underscores, or special characters.

(6) G6: Accepted Product acronyms (e.g., AMDAHL, COBOL, etc.) maybe used.

(7) G7: Develop acronyms by simply using the first letter of each fully spelled word.

(8) G8: An acronym must not be developed for a single word. An acronym may be developed for two or more words.

(9) G9: An acronym must be developed from words that have a single concept, central theme, central idea, or represent one thing or one object.

(10) G10: An acronym will not be developed merely for individual convenience.

(11) GI 1: Generally to be approved, candidate acronyms must be established, (i.e., listed in a published reference source such as Acronyms, Initial isms, and Abbreviation Dictionary, edited by Julie E. Towell and Heln E. Sheppard, Grace Research Company, Detroit, MI).

3. Class' Names

Approved class names, their associated abbreviation, and their definitions are listed below. This list will be maintained and updated by the DoD DA in the DoD data dictionary. This list will be the authoritative source of all approved class names and their abbreviations.

| Class Name | Abbreviation | Qualifier Required | Description |
|------------|--------------|--------------------|---|
| Amount | AMT | Yes | A monetary value (Includes: Average, Balance, Deviation, Factor, Index, Level, Mean, Mode, Scale, Yield) |
| Angle | ANGL | No | The rotational measurement between two lines/planes diverging from a common point/line (Includes: Azimuth, Heading) |
| Area | AREA | Yes | The measurement of a surface expressed in unit squares [two-dimensional] |
| Code | CD | No | Combination of one or more numbers, letters, special characters which is submitted for a specific meaning. Represents finite, predetermined values. [Must have a specific domain] (Includes: Category, Status, Abbreviations) |
| Coordinate | COORD | No | Designation of the location of a line or plane. (Includes: Latitude, Longitude) |
| Date | DT | No | The notion of a specific period of time |

| Class Name | Abbreviation | Qualifier Required | Description |
|--------------------|---------------------|---------------------------|---|
| Dimension | DMSN | Yes | A measured linear distance [one-dimensional] (Includes: Altitude, Depth, Diameter, Distance, Elevation, Height, Length, Radius, Width, Vertex) |
| Identifier | ID | No | Combination of one or more numbers, letters, special characters which designate a specific object/entity, but has no readily definable meaning. [Must have a general domain] (Includes: Designator) |
| Mass | MASS | No | The measure of inertia of a body |
| Name | NM | No | A designation of an object/entity expressed in a word, phrase or abbreviation |
| Quantity | QTY | No | A non-monetary value (Includes: Average, Balance, Deviation, Factor, Index, Level, Mean, Median, Mode, Scale) |
| Rate | RT | Yes | A quantity, amount or degree of something in relation to units of something else [e.g. miles/gallon] (Includes: Acceleration, Density, Factor, Flow, Force, Frequency, Humidity, Impedance, Inductance, Intensity, Magnitude, Moment, Percent, Power, Pressure, Resistance, Scale, Speed, Tension, Velocity, Viscosity, Voltage) |
| Temperature | TP | Yes | The measure of heat in an object |

| Class | Name | Abbreviation | Qualifier Required | Description |
|--------|------|--------------|--------------------|---|
| Text | | TXT | No | An unformatted character string, generally in the form of words (Includes: Abbreviation, Category, Comments) |
| Time | | TM | No | A notion of a specified chronological point within a period |
| Volume | | VOL | Yes | Measurement of space occupied by a three-dimensional figure as measured in cubic unites [three-dimensional] |
| Weight | | WT | Yes | The force with which an object is attracted toward the earth and/or other celestial body by gravitation |

4. Data Definition Rules

a. Definition Rules

- (1) R1: The data name must not be repeated verbatim in its own definition, although the words within the data name may be incorporated within the definition.
- (2) R2: The standard data definition must have one and only one interpretation. A standard data definition must be ambiguous.
- (3) R3: Terms with differing or varying connotations must have their meanings clearly explained in the standard data definition.
- (4) R4: A standard data definition must be written in language common to all users within the organization.
- (5) R5: Data definitions must not contain acronyms or abbreviations.
- (6) R6: Data definitions must not contain processing or editing instructions.

(7) R7: Data definitions must not refer to hardware, software, or language conventions or constraints.

(8) R8: A data definition must define WHAT data is. A data definition does not define HOW, WHERE, or WHEN it is used or WHO uses it.

b. Definition Structure:

| | |
|-------------------------------|--------------|
| Generic Element Example | (NAME, DEFN) |
| Standard Data Element Example | (NAME, DEFN) |

5. Element Name Rules

a. Both Generic Element and Data Element Rules

(1) R1: No abbreviations or acronyms are permitted in a generic element or standard data element name.

(2) R2: Only alphabetic characters (A-Z, a-z), hyphens (-), and permitted in generic element and standard data element names.

(3) R3: Hyphens maybe used to connect multiple words in a prime object name or a qualifier. A space is used to separate each component of a data element name.

(4) R4: Modifiers maybe used to fully describe a generic element and a standard data element.

(5) R5: Class names will be reserved; class names will not be used as modifiers, qualifiers or prime object names.

(6) R6: Plurals are not permitted. (Exception: Plurals maybe used as qualifiers.)

(7) R7: Possessives are not allowed in the standard data element name.

(8) R8: "PER" is the only preposition that maybe used in a generic element or standard data element name as part of the class name qualifier. No other

prepositions (at, by, for, from, in, of, to, etc.) are permitted.

(9) R9: Articles (a, an, the, etc.) are not permitted in generic element or standard data element names.

(10) RIO: Conjunctions (and, or, but, etc.) are not permitted in generic element or standard data element names.

(11) RI 1: Names of organizations, computer or information systems, directives, forms, screens, or standard data element names.

(12) R12: Titles of blocks, rows, or columns of screens, report, or listings are not permitted in generic element or standard data element names.

(13) RI 3: Generic and Standard Data Element names will not contain verbs.

(14) R14: Generic and Standard Data Element names will not contain/reference:

- (a) Hardware, software or language
- (b) Physical placement or use
- (c) Storage format information or characteristics (exception: Qualifier/“Measured inn)
- (d) Numbers or counts used to indicate multiple occurrences of the same data entity.

(15) RI 5: Generic element and standard data element names must be clear and accurate, and self-explanatory.

(16) R16: Generic element and standard data element names must not be multi-purpose or multi-use.

b. Generic Element Rules

(1) GEI: The sequence of words in the Generic Element full word name will be:

| | | |
|---------------|-------------|------------|
| MODIFIERS(S)+ | CLASS NAME+ | QUALIFIER |
| [optional] | [required] | [optional] |
| [0..N] | [1] | [0 or 1] |

(2) GE2: Each generic element name must contain only class name. [Note: By restricting the generic element name to one class name, the standard data element is formulated to describe only one type of information collected about an object.]

(3) GE3: A unit of measure qualifier must be applied to the generic element names of all class names that describe a numeric quantity, i.e., AMOUNT, AREA, DIMENSION, TEMPERATURE, VOLUME, and WEIGHT. A qualifier maybe added to RATE. Qualifiers will not be applied to qualitative class names.

c. Data Element Rules

(1) DE1: The sequence of words in the Data Element full word name will be:

| | | | |
|-------------|------------|-------------|------------|
| PRIME+ | PRIME+ | GENERIC+ | GENERIC |
| OBJECT | OBJECT | ELEMENT | NAME |
| ELEMENT | NAME | MODIFIER(S) | NAME |
| MODIFIER(S) | | | |
| [optional] | [required] | [optional] | [required] |
| [0...N] | [1] | [0...N] | [1] |

(2) DE2: Each standard data element name must include its related generic name.

(3) DE3: Each standard data element name will describe only one concept and contain only one designated prime object name. [Note: By requiring a standard data element name to have one designated prime object name, the standard data element is formulated to explicitly describe only one objector concept. If the standard data element contains two words that may be considered as prime object names, only one of them will be designated as the prime object name.]

6. Data Definition Structure By Class Name

A data definition structure (generic or standard data element) centers around the class name of the data it describes. Developing a standard data definition using a structure minimizes “writer’s block” and facilitates the development of consistent and meaningful definitions which can be accepted by all users.

| | |
|--------------------------------|--|
| <i>If the class name is...</i> | [Examples are provided for generic elements (GE) and standard data elements (SDE)] |
| AMOUNT | <p><i>The generic element definition should begin...</i></p> <p>The monetary unit representing...</p> <p>Example: The cost amount, given in United States dollars, of an object.</p> <p>GE: AMOUNT UNITED-STATES-DOLLARS</p> <p><i>The standard data element definition should begin...</i></p> <p>The [modifiers] amount, given in [United States dollars, etc.] of...</p> <p>Example: The cost amount, given in United States dollars, of a particular ammunition component.</p> <p>SDE: AMMUNITION-COMPONENT COST UNITED-STATES-DOLLARS</p> |

If the class name is...

[Examples are provided for generic elements (GE) and standard data elements (SDE)]

ANGLE

The generic element definitions should begin...
The rotational measurement between...

Example: The rotational measurement between two lines extending from the same point or by two planes diverging from a common line.

GE: ANGLE

The standard data element definition should begin...
The [modifiers] rotational measurement of [two lines from a common point or two planes diverging from a common line] for a...

Example: The rotational measurement between the geographic meridian and local magnetic meridian, indicated as degrees plus (+) to the east, or degrees minus (-) to the west, of the geographic meridian for a specific airport.

SDE: AIRPORT MAGNETIC VARIATION ANGLE

AREA

The generic element definitions should begin...
The two dimensional surface measurement of...

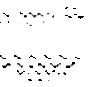
Example: The two dimensional surface measurement of a specific place.

GE: AREA SQUARE-FEET

The standard data element definitions should begin...
The [modifiers] two dimensional surface measurement given in [square feet, square meters, etc.] of...

Example: The total two dimensional surface measurement, in square feet, available for parking aircraft at a given airport.

SDE: AIRPORT AVAILABLE AIRCRAFT PARKING AREA SQUARE-FEET



*If the class
name is...*

[Examples are provided for generic elements (GE) and
standard data elements (SDE)]

CODE

The generic element definition should begin...
The specific value that represents/denotes...

Example: The specific value that represents/denotes the
classification characteristic of a berth.
GE: BERTH CLASSIFICATION CODE

The standard data element definitions should begin...
The [modifiers] specific value that represents/denotes a...

Example: The unit type's specific value that represents
whether a unit is designated as combat or
noncombat.
SDE: UNIT TYPE COMBAT INDICATOR CODE

COORDINATE

The generic element definition should begin...
The set of numbers that locate the [modifier] position of...

Example: The set of numbers that locate the latitude position
of a specific object.
GE: LATITUDE COORDINATE

The standard data element definition should begin...
The set of numbers that locate the [modifiers] position of...

Example: The set of numbers that locate the latitude position of a
specific airport.
**SDE: AIRPORT GEOGRAPHIC-LOCATION
LATITUDE COORDINATE**

*If the class
name k...*

[Examples are provided for generic elements (GE) and
standard data elements (SDE)]

DATE

The generic element definition should begin...
The specific period of time of/when/on which/a...

Example: The specific period of time when an event occurs,
occurred, or will occur.

GE: DATE

The standard data element definition should begin...
The [modifiers] specific period of time of/when/on which/a...

Example: The [modifiers] specific period of time when a
specific carrier is scheduled to leave the port of
embarkation.

SDE: CARRIER EMBARKATION DATE

DIMENSION

The generic element definition should begin...
The one dimensional linear measurement [length, width,
height, radius, elevation, etc.] of/from...

Example: The one dimensional linear measurement of the height
in feet of an object.

SDE: HEIGHT DIMENSION

The standard data element definition should begin...
The one dimensional linear measurement [length, width, height,
radius, elevation, etc.] given in [feet, inches, meters, miles, etc.]
of/from...

Example The one dimensional linear measurement of the length,
given in inches, of a particular supply item.

**SDE: SUPPLY-TYPE-ITEM LENGTH DIMENSION
INCHES**

*If the class
name is...*

[Examples are provided for generic elements (GE) and
standard data elements (SDE)]

IDENTIFIER

The generic element definitions should begin...
The unique value, or set of characters, assigned to represent...

Example: The unique value, or set of characters, assigned to
represent an object.
SDE: IDENTIFIER

The standard data element definition should begin...
The unique value, or set of characters, assigned to represent...

Example: The unique value, or set of characters, assigned to
represent a particular operations plan.
SDE: OPERATION PLAN IDENTIFIER

MASS

The generic element definitions should begin...
The measure of inertia of...

Example: The measure of inertia of a specific object
GE: MASS

The standard data element definition should begin...
The [modifiers] measure of inertia of...

Example: The measure of inertia of a particular planet in the
universe.
SDE: PLANET MASS

***If the class
name is...***

[Examples are provided for generic elements (GE) and
standard data elements (**SDE**)]

NAME

The generic element definition should begin...
The [word/words] that express the designation of . . .

Example: The [word/words] that express the designation of a
particular object.
GE: NAME

The standard data element definition should begin . .
The [word/words] that express the designation of...

Example: The [word/words] that express the designation of a
particular harbor.
SDE: HARBOR NAME

QUANTITY

The generic element definition should begin...
The non-monetary unit representing the count of...

Example: The non-monetary unit representing the count of a group
of identical objects.
GE: QUANTITY

The standard data element definition should begin...
The [modifiers] non-monetary unit representing the count of...

Example: The non-monetary unit representing the count of a
particular type of taxiway being defined at a given airport.
SDE: AIRPORT TAXIWAY COUNT QUANTITY



*If the class
name is...*

[Examples are provided for generic elements (GE) and
standard data elements (**SDE**)]

RATE

The generic element definition should begin...
The relationship, given in [qualifier, units per...] that represents
[force, speed, pay, etc.] of...

Example: The relationship, given in pounds per square inch, that
represents the applied force of an object.
GE: RATE POUNDS-PER-SQUARE-INCH

The standard data element definitions should begin...
The [modifiers] non-monetary unit representing the count of...

Example: The relationship, given in pounds per square inch, that
represents the average block speed rate of a specific
type of aircraft for a given leg critical range distance.
**SDE: AIRCRAFT AVERAGE BLOCK SPEED RATE
NAUTICAL-MILES-PER-HOUR**

TEMPERATURE

The generic element definition should begin...
A number given in [degrees Fahrenheit, Celsius, etc.] representing
the heat of...

Example: The number, in degrees Fahrenheit, representing the
heat of an object.
GE: TEMPERATURE DEGREES-FAHRENHEIT

The standard data element definitions should begin...
A number given in [degrees Fahrenheit, Celsius, etc.]
representing the heat of...

Example: The number, in degrees Fahrenheit, representing the
monthly minimum temperature for a specific location.
**SDE: GEOGRAPHIC-LOCATION MONTHLY MINIMUM
TEMPERATURE DEGREES-FAHRENHEIT**

***If the class
name is...***

[Examples are provided for generic elements (GE) and
standard data elements (**SDE**)]

TEXT

The generic element definition should begin...
The free-form narrative that [describes/defines]...

Example: Free Form text which describes an object.

GE: TEXT

The standard data element definitions should begin...
The free-form narrative that [describes a particular complete round
of ammunition.]

SDE: AMMUNITION-ROUND DESCRIPTION TEXT

TIME

The generic element definitions should begin...
The specific chronological point that designates the occurrence [in
the past, present, or future] of...

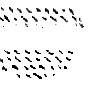
Example: The specific chronological point that designates the
occurrence [in the past, present, or future] of an event.

GE: TIME

The standard data element definitions should begin...
The free-form narrative that [describes/defines]...

Example: The specific chronological point that designates when in
the future a specific carrier is scheduled to leave the port
of embarkation.

SDE: CARRIER EMBARKATION DATE



*If the class
name is...*

[Examples are provided for generic elements (GE) and
standard data elements (SDE)]

VOLUME

The generic element definition should begin...

The three dimensional cubic measurement [in petroleum, oil, and
lubricant barrels; gallons, etc.] of...

Example: The three dimensional cubic measurement in gallons of a
liquid.

GE: VOLUME GALLONS

The standard data element definition should begin...

The free-form narrative that [describes/defines]...

Example: The three dimensional cubic measurement in gallons of
the total storage capacity of water at a given airport.

**SDE: AIRPORT TOTAL WATER STORAGE
VOLUME GALLONS**

WEIGHT

The generic element definition should begin...

The mass of . . . times the acceleration of gravity, given in [short
tons, pounds, grams, etc.] of...

Example: The mass times acceleration of gravity in short tons of an
object.

GE: WEIGHT SHORT-TONS

The standard data element definition should begin...

The free-form narrative that [describes/defines]...

Example: The mass times the acceleration of gravity, given in short
tons, of a particular item of cargo for a given operation
plan force requirement.

**SDE: OPERATION FORCE REQUIREMENT CARGO
WEIGHT SHORT-TONS**

C. METADATA ATTRIBUTES

1. Entity Attributes

The following attributes are used to describe an entity. A complete description of each of the entity attributes follows this list.
[The entity attribute list is currently being standardized.]

a. Generic Element Attributes

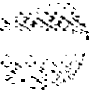
The following attributes are used to describe a generic element. A complete description of each of the generic element attributes follows this list,

Generic-Element Abbreviated Name¹
 Generic-Element Class Name¹
 Generic-Element Decimal Place Count Quantity¹
 Generic-Element Definition Text¹
 Generic-Element Domain Definition Text¹
 Generic-Element Domain Value Definition Text¹
 Generic-Element Domain Value Identifier¹
 Generic-Element High Range Identifier¹
 Generic-Element Maximum Character Count Quantity¹
 Generic-Element Name¹
 Generic-Element Origin Office Name¹
 Generic-Element Previous Name
 Generic-Element Previous Standardization Status Code
 Generic-Element Previous Standardization Status Date
 Generic-Element Security Classification Code¹
 Generic-Element Standardization Status Code¹
 Generic-Element Standardization Status Date¹
 Generic-Element Type Name¹
 Generic-Element Updated Name
 Generic-Element Updated Standardization Status Code
 Generic-Element Updated Standardization Status Date

b. Non-Standard Data Element Attributes

The following attributes are used to describe a non-standard data element. A complete description of each of the non-standard data element attributes follows this list.

¹Must be completed for submission to CDAd.



Non-standard-Data-Element Abbreviated Name
Non-standard-Data-Element Application Name²
Non-standard-Data-Element Authority Reference Text
Non-standard-Data-Element Decimal Place Count Quantity
Non-standard-Data-Element Definition Text
Non-standard-Data-Element Maximum Character Count Quantity
Non-standard-Data-Element Name*
Non-standard-Data-Element Remark Text
Non-standard-Data-Element Responsible Steward Name
Non-standard-Data-Element Type Name

c. Standard Data Element Attributes

The following attributes are used to describe a standard data element. A complete description of each of the standard data element attributes follows this list.

Generic-Element Name³
Standard-Data-Element Authority Reference Text
Standard-Data-Element Component Code³
Standard-Data-Element Definition Text³
Standard-Data-Element Domain Definition Text³
Standard-Data-Element Domain Value Definition Text³
Standard-Data-Element Domain Value Identifier³
Standard-Data-Element Eight Abbreviated Name³
Standard-Data-Element Eighteen Abbreviated Name³
Standard-Data-Element Formula Definition Text
Standard-Data-Element High Range Identifier³
Standard-Data-Element Low Range Identifier³
Standard-Data-Element Maximum Character Count Quantity³
Standard-Data-Element Name³
Standard-Data-Element Origin Office Name³
Standard-Data-Element Previous Name
Standard-Data-Element Previous Standardization Status Code
Standard-Data-Element Previous Standardization Status Date

²Must be completed for submission to CDAd.

³Must be completed for submission to CDAd.

Standard-Data-Element Prime Object Name³
Standard-Data-Element Security Classification Code³
Standard-Data-Element Standardization Status Code³
Standard-Data-Element Standardization Status Date³
Standard-Data-Element Steward Name³
Standard-Data-Element Thirty Abbreviated Name³
Standard-Data-Element Updated Name
Standard-Data-Element Updated Standardization Status Code
Standard-Data-Element Updated Standardization Status Date

D. DATA ELEMENT STANDARDIZATION DETAILED PROCEDURES

1. Step 1. Know the Data

The foundation for information sharing is standardized data.

When standardizing a data element, ASK...

What is the data?
What does the data look like?
What is the business purpose?
What is the business usage?
What business question is answered?

2. Step 2. Gather Resources

Obtain all available information about the definition, domain, and other attributes of the data requirement or non-standard data element, based on the data model that describes the data requirement.

Possible references and resources include:

- * FIPS (Federal Information Processing Standards)
- * Dictionary of Business Terms
- * Unabridged Dictionary
- * Thesaurus
- * Notes from Interviews with Business & Systems Analysts
- * Manuals/Directives
- * System Documentation

1

The third step is to get the Data Element Standardization Worksheet. A copy is provided at the end of this section (Appendix C; Section D). If available use a data dictionary or other automated facility at each succeeding step while filling out the worksheet to save time and effort...

4. Step 4. Identify the Class Name

The Class Name is a mandatory attribute.

Step 4.1. Identify the Class Name

The description of each Class Name maybe found in Appendix C; Section A-Terms/Concepts.

The class name must be selected from the DoD Approved Class Name List in Appendix C; Section B-Data Standards and Conventions.

Procedure:

(1) Determine the class name by reviewing the data requirement to identify what will be stored in the development standard data element (i.e., a code, a name, a monetary amount, etc.).

(2) Enter the appropriate Class Name on the Data Element Standardization Worksheet. (If you have a data dictionary or other automated tool of generic and standard data elements, it is normally advisable to wait until you have identified the Prime Object Name (step 5) before querying it. **Otherwise , for instance at step 4, the universe of “hits” on Class Name alone will generally be too broad for effective use.)**

Example:

If a money value is stored, then the Class Name is AMOUNT.

5. Step 5. Identify the Prime Object Name

The Prime Object Name is a mandatory attribute.

Step 5.1. Identify the Prime Object Name

The description of a Prime Object Name maybe found in Appendix C; Section A- Terms/Concepts.

Procedure:

(1) From the data model, identify the prime object name that reflects the entity (object) to which the name is related and about which information is being collected (e.g., airport, unit, individual, vehicle, etc.). (NOTE: Ideally, prime object names are determined during an information engineering effort (enterprise models, logical models, etc.) which identifies those objects in which the organization has significant interest.) The prime object name adds specificity to the standard data element definition by ensuring that the class name describes the object of interest.

(2) Enter the appropriate Prime Object Name on the Data Element Standardization Worksheet. (Query for existing generic and standard data elements containing this combination Class Name and Prime Object Name. See if the definitions of generic element and standard data element definitions meet your requirements. It is also advisable to check the allowed data values (domain) of the generic element. If these existing elements are appropriate or at least helpful, use the information from the data dictionary to help fill out the worksheets 6-10 and 11-12 respectively. If not, continue to use the worksheet. You have the option of pursuing steps 6-10 if you wish to develop the generic element first or to proceed with steps 11-12 to develop the standard data element first. However, remember that you must have an approved standard data element which must contain an appropriate generic element; so you must complete both of these sections of the worksheet.)

Example:

If the object of interest is Vehicle, then the Prime Object Name is VEHICLE.

6. Develop the Generic Element Definition

The Generic Element Definition is a mandatory attribute.

a. Step 6.1. Select the Definition Structure for the Class Name.

The Generic Element Definition Structures by Class Name maybe found in Appendix C; Section B-Data Standards and Conventions.

Procedure:

Enter the generic element definition structure associated with the class name selected on the Data Element Standardization Worksheet.

Example:

The Generic Element Definition Structure by Class Name for AMOUNT is “The monetary units representing...”

b. Step 6.2. Identify the Class Name Qualifier.

If the class name is quantitative, determine the appropriate qualifier.

Quantitative class names are identified in Appendix C; Section B-Data Standards and Conventions; Approved Class Names.

Procedure:

(1) List Candidate class name qualifiers on the Data Element Standardization Worksheet.

Ask: What is the measure of this data?

(2) Select the Key class name qualifier.

Ask: What is the most accurate measure of this data?
What is the most interoperable measure of this data?

(3) Edit the Key class name qualifier.

Spell out all Acronyms and Abbreviations
Define/Explain any specialized or functional terms

(4) Enter the edited key qualifier on the Data Element Standardization Worksheet.

Example:

Because the class name AMOUNT is identified as Quantitative, and the most accurate/interoperable measure of this data is United States currency, the Edited Key Qualifier = United-States-Dollars

c. Step 6.3. Identify the Class Name Modifier (s)

The addition of modifiers to further explain/describe the class name is optional. However, keep the modifiers general to maximize the use of roles and domains. Specificity will be added when developing the standard data element definition.

Procedure:

(1) List the Candidate Class Name modifier(s) on the Data Element Standardization Worksheet.

Ask What word(s) best describe this data?
What kind of or type of (class name)?

(2) Select the Key class name modifier(s).

Ask: What words best describe the class name?

Some of the words identified in this step will not meet data definition standards. They may, however, be appropriate for other generic element attributes.

Select the Key *class* name modifier(s) by:

(a) Crossing out words that reference:

- * Where it is used
- * How it is used
- * When it is used
- * How it is constructed
- * Who uses it

(b) Crossing out phrases and words that reference:

- * Processing Instructions
- * Editing Instructions
- * Hardware Conventions/Constraints
- * Software Conventions/Constraints
- * Language Conventions/Constraints

(c) Crossing out Data-Names

(3) Edit Key class word modifier(s) by:

- (a) Spelling out all Acronyms and Abbreviations**
- (b) Reducing each noun to its singular form**
- (c) Defining any specialized or functional terms**

Example:

To determine a mst basis, we need to know the total depreciation allowed or allowable. Therefore, class name modifier(s) and definition(s) are:

Candidates:

Total - sum; aggregate

Depreciation - a reasonable allowance for the exhaustion of property used in a trade or business, or property held for the production of income; loss in value of an asset whether due to physical changes, obsolescence, or factors outside of the asset.

Key Modifiers:

Neither one will be selected because they are not general or generic.

d. Step 6.4. Formulate the Generic Element Definition

Edit and refine the generic element definition according to the standards of English writing. .

Procedure:

(1) Assemble, as applicable, the components developed in steps 4.2 thru 4.4 as follows:

**Generic Element Definition Structure by Class Name +
'Measured in'+ Qualifier+
Class Name Modifier (s) Definitions (s)**

(2) Formulate logically sequenced, grammatically and structurally correct sentences:

Example:

(a) The monetary units representing...
Measured in ... United States dollars

(b) The monetary units in United States dollars

e. Step 6.5. Ensure Compliance with the Data Definition Rules

Compare the completed definition to the Data Definition Rules in Appendix C: Section B-Data Standards and Conventions; Data Definition Rules.

Revise as necessary.

f. Step 6.6. Document

GENERIC-ELEMENT DEFINITION TEXT

7. STEP 7 Develop the Generic Element Name

The Generic Element Name is a mandatory attribute.

All the components for the Generic Element Name were developed in Step 4 Identify the Class Name and Step 6- Develop the Generic Element Definition.

| GENERIC ELEMENT NAME STRUCTURE | | |
|--------------------------------|----------|-----------|
| CLASS | CLASS | QUALIFIER |
| NAME | NAME | |
| MODIFIER(S) | | |
| OPTIONAL | REQUIRED | REQUIRED |
| [O...N] | [1] | [1] |

a. Step 7.2. Formulate the Generic Element Name

Enter the information on the appropriate lines of the Data Element Standardization Worksheet.

An example of ordering the “components” coming from the worksheet follows:

| | |
|----------------------------|-------------------------|
| AMOUNT | UNITED-STATES-DOLLARS |
| (1) Class Name (Step 4.1.) | = AMOUNT |
| (2) Qualifier (Step 6.2.) | = UNITED-STATES-DOLLARS |
| (3) Modifier (Step 6.3.) | = Not Applicable |

b. Step 7.3. Ensure Compliance

Compare the completed Generic Element Name to the Element Name Rules in Appendix C: Section B-Data Standards and Conventions.

Revise as necessary.

c. Step 7.4. Document

GENERIC-ELEMENT CLASS NAME
GENERIC-ELEMENT NAME

8. Step 8 Develop the Generic Element Abbreviated Name

The Generic Element Abbreviated Name is a mandatory attribute.

a. Step 8.1. Formulate the Generic Element Abbreviated Name

Procedure:

- (1) Substitute the approved class name abbreviation for the class name.**
- (2) Substitute the approved abbreviation for the qualifier, if required.**
- (3) Substitute the accepted acronym(s) for the class name modifiers.**
- (4) Substitute the approved abbreviations for the remaining full word(s).**
- (5) Enter a hyphen in each blank space separating the words.**
- (6) Count the characters, including hyphens**

If the length of the abbreviated name is greater than 12 characters, including hyphens, contact your CDAd:

Example:

(a) Substitute the approved class name abbreviation for the class name
AMT

(b) Substitute the approved abbreviation for the qualifier, if required.
UNITED STATES=US;
DOLLARS-->
DOLLARS-->
DLR =====>

US-DLR

(c) Substitute the accepted acronym(s) for the class name modifiers

-- -----

(d) Substitute the approved abbreviations for the remaining full word(s)

(e) Enter a hyphen in each blank space separating the words.

AMT-US-DLR

(f) Count the characters, including hyphens.

10

b. Step 8.2. Document

GENERIC-ELEMENT ABBREVIATED NAME

9. Step 9. Develop the Generic Element Domain

The Generic Element Domain attributes are mandatory.

a. Step 9.1. Identify the Generic Element Domain

Procedure:

Document only one of the following three categories:

(1) If the Class Name is CODE, then enter each specific code and meaning on the Data Element Standardization Worksheet.

GENERIC- ELEMENT DOMAIN VALUE IDENTIFIER
(Code)

GENERIC-ELEMENT DOMAIN VALUE DEFINITION TEXT
(Meaning)

(2) If the Class Name is IDENTIFIER or is Quantitative, enter the ranges on the Data Element Standardization Worksheet.

GENERIC-ELEMENT LOW RANGE IDENTIFIER
(Lowest/Minimum/Smallest Value)

GENERIC-ELEMENT HIGH RANGE IDENTIFIER
(Highest/Maximum/Largest Value)

(3) If the Class Name is other than those above, complete

GENERIC-ELEMENT DOMAIN DEFINITION TEXT

Example:

Number 2 applies because Class Name AMOUNT is quantitative.

GENERIC-ELEMENT LOW RANGE IDENTIFIER =0000000001
GENERIC-ELEMENT HIGH RANGE IDENTIFIER =9999999999

10. Step 10. Document the Remaining Mandatory Generic Element Attributes

The Remaining Mandatory Generic Element attributes must be documented.
Refer to the detailed generic element attribute descriptions in Appendix C:
Section C–Data Entity Attributes.

GENERIC-ELEMENT TYPE NAME
(Data Type)

GENERIC-ELEMENT MAXIMUM CHARACTER COUNT QUANTITY
(Maximum Logical Length)

GENERIC-ELEMENT DECIMAL PLACE COUNT QUANTITY
(If the GENERIC-ELEMENT TYPE NAME is Real, then determine the maximum
number of decimal places the number will contain)

GENERIC-ELEMENT SECURITY CLASSIFICATION CODE
(Highest level of security required)

GENERIC-ELEMENT ORIGIN OFFICE NAME

GENERIC-ELEMENT STANDARDIZATION STATUS CODE

GENERIC-ELEMENT STANDARDIZATION STATUS DATE

Example:

GENERIC-ELEMENT TYPE NAME=Real
(Data Type)

GENERIC-ELEMENT MAXIMUM CHARACTER COUNT QUANTITY=14
(Maximum Logical Length)

GENERIC-ELEMENT DECIMAL PLACE COUNT QUANTITY=2
(If the **GENERIC-ELEMENT TYPE NAME** is Real, then determine the maximum number of decimal places the number will contain)

GENERIC-ELEMENT SECURITY CLASSIFICATION CODE=U
(Highest level of security required)

GENERIC-ELEMENT ORIGIN OFFICE NAME=DIA

GENERIC-ELEMENT STANDARDIZATION STATUS CODE=D

GENERIC-ELEMENT STANDARDIZATION STATUS DATE= I 9910601

11. Step 11. Develop the Standard Data Element Definition

The Standard Data Element Definition is a mandatory attribute.

a. Step 11.1. Identify the Prime Object Name Modifier(s)

The addition of modifiers to further explain/describe the Prime Object Name is optional.

Procedure:

(1) Enter the Candidate Prime Object Name modifier(s) on the worksheet.

Ask: What word(s) best describe this prime object?
What kind of or type of (prime object name)?

(2) Select the Key prime object name modifier(s)

Ask: What words are not essential/do not belong?

Some of the words identified in this step will not meet data definition standards. They may, however, be appropriate for other data element attributes.

Select the Key class name modifier(s) by:

(a) Crossing out words that reference:

- * Where it is used
- * How it is used
- * When it is used
- * How it is constructed
- * Who uses it

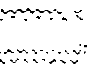
(b) Crossing out phrases and words that reference:

- * Processing Instructions
- * Editing Instructions
- * Hardware Conventions/Constraints
- * Software Conventions/Constraints
- * Language Conventions/Constraints

(c) Crossing out Data-Names**(3) Edit Key prime object name modifier(s)****(a) Spell out all Acronyms and Abbreviations****(b) Reduce each noun to its singular form****(c) Define/Explain any specialized or functional terms**

Example:

VEHICLE does not require modifiers.



b. Step 11.2. Identify the Generic Element Modifier(s)

Procedures:

(1) Enter the Candidate generic element modifier(s) on the worksheet.

**Ask: What word(s) best describe this generic element?
What kind of or type of (generic element name)?**

(2) Select Key generic element name modifier(s)

Ask: What words are not essential/do not belong?

Some of the words identified in this step will not meet data definition standards. They may, however, be appropriate for other data element attributes.

Select the Key generic element name modifier(s) by:

(a) Crossing out words that reference:

- * Where it is used**
- * How it is used**
- * When it is used**
- * How it is constructed**
- * Who uses it**

(b) Crossing out phrases and words that reference:

- * Processing Instructions**
- * Editing Instructions**
- * Hardware Conventions/Constraints**
- * Software Conventions/Constraints**
- * Language Conventions/Constraints**

(c) Crossing out Data-Names

(3) Edit prime object name modifier(s)

(a) Spell out all Acronyms and Abbreviations

1,

(b) Reduce each noun to its singular form

(c) Define/Explain any specialized or functional terms

Example:

Potential modifiers were identified in Step 6.3.:

To determine a cost basis, we need to know the total depreciation allowed or allowable. Therefore, generic element modifier(s) and definition(s) are:

Candidates:

Total-sum; aggregate

Depreciation- a reasonable allowance for the exhaustion of property used in a trade or business, or property held for the production of income; loss in value of an asset whether due to physical changes, obsolescence, or factors outside of the asset

Key Modifiers:

Total; Depreciation

c. Step 11.3. Formulate the Data Element Definition

Edit and refine the standard data element definition according to the standards of English writing.

Procedures:

(1) Assemble, as applicable, the components developed in Step 5.14 identify the Prime Object Name; Step 6.6-Document the Generic Element Definition, Step 11.1-Identify the Prime Object Name Modifiers; and Step 11.2-identify the Generic Element Modifiers as follows:

Generic Element Definition+

Generic Element Modifiers/Modifier Definitions+

Prime Object Name Modifier(s)+

Prime Object Name

(2) Formulate logically sequenced, grammatically and structurally correct sentences.

Procedures:

(a) Assemble, as applicable, the components developed in Step 5.1.- Identify the Prime Object Name; Step 6.6-Document the Generic Element Definition, Step 11.1 .-Identify the Prime Object Name Modifiers; and Step 11.2. - Identify the Generic Element Modifiers as follows:

Generic Element Definition+
Generic Element Modifiers/Modifier Definitions+
Prime Object Name Modifier(s)+
Prime Object Name

(b) Formulate logically sequenced, grammatically and structurally correct sentences.

Example:

The monetary units measured in United States dollars+
Total/Loss in value due to physical changes, obsolescence or outside
factors+
Vehicle

The monetary units measured in United States dollars representing the
total loss in value due to physical changes, obsolescence or outside
factors of a vehicle OR

The monetary units measured in United States dollars representing the
total loss in value of a vehicle due to physical changes, obsolescence or
outside factors.

d. Step 11.4. Ensure Compliance

Compare to the completed definition to the Data Definition Rules in Appendix C: Section B-Data Standards and Conventions; Data Definition Rules.

Revise as necessary

e. **Step 11.5. Document**

STANDARD-DATA-ELEMENT DEFINITION TEXT

12. Develop the Standard Data Element Name

The Standard Data Element Name is a mandatory attribute.

a. **Step 12.1. Identify the Components**

The generic element name associated with a standard data element must be included in its entirety and in the same word order in the standard data element name.

All the components for the Standard Data Element name were identified in Step 5- Identify the Prime Object Name; Step 7-Develop the Generic Element Name; and Step 11- Developing the Standard Data Element Definitions.

b. **Step 12.2. Formulate the Standard Data Element Name**

Enter the information on the appropriate lines of the Standard Data Element Worksheet. Order multiple modifiers from (right to left) general to specific.

Example:

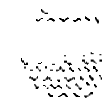
VEHICLE TOTAL DEPRECIATION AMOUNT UNITED-STATES-DOLLARS

(1) Generic Element Name (Step 6.6) = AMOUNT UNITED-STATES-DOLLARS

(2) PRIME OBJECT NAME (STEP 5.1) = VEHICLE

(3) Key Prime Object Name Modifier(s) (Step 11.1)= Not applicable

(4) Key Generic Element Modifier(s) (Step 11.2)= TOTAL; DEPRECIATION



c. Step 12.3. Ensure Compliance

Compare the completed Standard Data Element Name to the Element Name Rules in Appendix C: Section B-Data Standards and Conventions Revise as necessary.

d. Step 12.4. Document

STANDARD-DATA-ELEMENT NAME

13. Step 13. Develop the Standard Data Element Abbreviated Names

The Standard Data Element Abbreviated Names are mandatory attributes.

a. Step 13.1. Develop the 30-Character Abbreviated Name

Procedure:

(1) Enter the 12-character Generic Element abbreviated name

(2) Substitute the approved prime object name abbreviation for the prime object name

(3) Substitute the accepted acronyms

(4) Substitute approved abbreviations for all the remaining full words

(5) Enter a hyphen in each blank separating the words

(6) Count the characters, including hyphens. If the length of the abbreviated name is greater than 30, including hyphens, revisit the Standard Data Element Definition and Standard Data Element Name to ensure that unnecessary modifiers have not been used.

If the number of characters still exceeds 30 characters, contact the CDA.

Example:

- (a) Enter the 12-character Generic Element abbreviated name
AMT-US-DLR
- (b) Substitute the approved prime object name abbreviation for the prime object name
VHCL
- (c) Substitute the accepted acroynms
- (d) Substitute approved abbreviations for all the remaining full words
TOTAL--->TL
DEPRECIATION--->DEPRECIATE--->DPRCT
- (e) Enter a hyphen in each blank separating the words
VHCL-TL-DPRCT-AMT-US-DLR
- (f) Count the characters, including hyphens
24

b. Step 13.2. Document

STANDARD-DATA-ELEMENT THIRTY ABBREVIATED NAME

c. Step 13.3. Develop the 18 Character Abbreviated Name

Procedure:

(1) If the Data Element Abbreviated name in Step 13.1 (STANDARD-DATA-ELEMENT THIRTY ABBREVIATED NAME) is equal to or less than 18 characters use it as is.

(2) If the length is greater than 18 characters, then an algorithm is enforced by forming a three-character abbreviation for the standard data element's prime object name, incorporating the standard data element's associated generic element abbreviated name (less than or equal to twelve characters), and randomly generating a three-character identifier.



/

Example:

VHCL-TL-DPRCTN-AMT-US-DLR is greater than 18 characters.
The algorithm yields; VHLAMT-US-DLROOI (16Characters)

d. Step 13.4. Document

STANDARD-DATA-ELEMENT EIGHTEEN ABBREVIATED NAME

e. Step 13.5. Develop the 8 Character Abbreviated Name

Procedure:

(1) If the Data Element Abbreviated name is Step 13.1 (STANDARD-DATA-ELEMENT THIRTY ABBREVIATED NAME) is equal to or less than 8 characters use it as is.

(2) If the length is greater than 18 characters, then an algorithm is enforced by forming a three-character abbreviation for the standard data element's prime object name, incorporating the standard data element's associated generic element abbreviated name (less than or equal to twelve characters), and randomly generating a three-character identifier.

Example:

VHCL-TL-DPRCTN-AMT-US-DLR is greater than 18 characters. The algorithm yields: VHLAMT-US-DLROOI (16 characters)

f. Step 13.4. Document

STANDARD-DATA-ELEMENT EIGHTEEN ABBREVIATED NAME

g. Step 13.5. Develop the 8 Character Abbreviated Name

Procedure:

(1) If the Data Element Abbreviated name in Step 13.1 (STANDARD-DATA-ELEMENT THIRTY ABBREVIATED NAME) is equal to or less than 8 characters use it as is.

(2) if the length is greater than 8 characters, then an algorithm is enforced by forming a three-character abbreviation for the standard data element's prime object name, incorporating the standard data element's associated class name approved abbreviation (two characters), and randomly generating a three-character identifier.

Example:

VHCL-TL-DPRCTN-AMT-US-DLR is greater than 8 characters. The algorithm yields: AMT-US-DLR (greater than 8 characters) and eventually VHLAMOOI (8 characters)

h. Step 13.6. Document

STANDARD-DATA-ELEMENT EIGHT ABBREVIATED NAME

14. Step 14. Document the Remaining Mandatory Standard Data Element Attributes

The Remaining Mandatory Standard Data Element Attributes must be documented. Refer to the detailed Standard Data Element attribute descriptions in Appendix C: Section C-Data Entity Attributes.

STANDARD-DATA-ELEMENT COMPONENT CODE

STANDARD-DATA-ELEMENT DOMAIN DEFINITION TEXT

STANDARD-DATA-ELEMENT DOMAIN VALUE DEFINITION TEXT

(If the generic element class name, associated with the standard data element, is 'CODE')

STANDARD-DATA-ELEMENT DOMAIN VALUE IDENTIFIER

(If the generic element class name, associated with the standard data element, is "CODE")

A standard data element domain value identifier (and its standard data element domain value definition text) must be identical to a generic element domain value identifier (and its generic domain value definition text) within the domain of that standard data element's associated generic element.



STANDARD-DATA-ELEMENT HIGH RANGE IDENTIFIER

The standard data element high range identifier must be less than or equal to (or within the upper bound of) its associated generic element high range identifier.

STANDARD-DATA-ELEMENT LOW RANGE IDENTIFIER

The low range identifier of a standard data element must be greater than or equal to (or within the lower bound of) its associated generic element low range identifier.

STANDARD-DATA-ELEMENT MAXIMUM CHARACTER COUNT QUANTITY

The standard data element maximum character count quantity (size) must be less than or equal to its associated generic element maximum length quantity.

STANDARD-DATA-ELEMENT ORIGIN OFFICE NAME

STANDARD-DATA-ELEMENT STANDARDIZATION STATUS CODE

STANDARD-DATA-ELEMENT STANDARDIZATION STATUS DATE

STANDARD-DATA-ELEMENT STEWARD NAME

15. Step 15. Review and Validate the Standard Data Element

Review and Validate the Standard Data Element

Procedure:

(1) Find all approved, modified, and candidate standard data elements whose names contain the prime object name and class name (and qualifier, if appropriate) identified above.

(2) Review the resulting list and complete the following steps:

(a) Compare approved, modified, and/or candidate standard data element names with the naming worksheet. Identify all approved, modified, and/or candidate standard data element names that seem to describe the same concept as the developmental standard element.

(b) Compare the definitions of the approved, modified, and/or candidate standard data elements identified in the above step with the definition of the

developmental standard data element. Identify all approved, modified, and/or candidate standard data elements whose definition describes the developmental standard data element.

(c) Compare the domain of the approved, modified, and/or candidate standard data elements identified in the above step with the domain of the developmental standard data element currently being considered. Identify all approved, modified, and/or candidate standard data elements whose domain matches, includes all of the values (is a superset) of, or approximates the domain of the developmental standard data element.

If all appropriate choices have been exhausted, go to Step 4.

(3) Select the approved or candidate standard data element whose attributes are closest to that of the developmental standard data element. Complete the comparison of the existing approved, modified, or candidate standard data element with the developmental standard data element by reviewing each of the mandatory attributes of a standard data element. For example, verify that the maximum character count quantity of the developmental standard data element can be accommodated by the existing approved, modified, or candidate standard data element.

If necessary, work with a functional expert and determine the required modifications to the selected approved, modified, or candidate standard data element and submit these changes as a modified standard data element and/or modified generic element.

If no modifications are necessary, use the selected approved, modified, or candidate standard data element to satisfy the data requirement. (NOTE: This procedure should determine no more than one candidate, modified, or approved standard data element. If more than one is identified, review the remaining approved, modified, and/or candidate standard data elements to determine which best represents the developmental standard data element data requirement.) This is an iterative process. As a data element progresses through standardization, it is moved upward through the echelons of DoD. At each level, the DA will review the outcome of the previous level, repeat as many of the above steps as necessary.

(4) Find all approved, modified, and/or candidate generic element names that contain the developmental standard data element class name (and qualifier, if appropriate).

(5) Review the resulting list and complete the following steps:

(a) Compare approved, modified, and/or candidate generic element names with the naming worksheet. Identify all approved, modified, and/or candidate generic element names that seem to describe the general structure of the developmental standard data element.

(b) Compare the definitions of the approved, modified, and/or candidate generic elements identified in the above step with the definition of the developmental standard data element currently being worked. Identify all approved, modified, and/or candidate generic elements whose definition describes the developmental standard data element.

(c) Compare the domain of the approved, modified, and/or candidate generic elements identified in the above step with the domain of the developmental standard data element. Identify all approved, modified, and/or candidate generic elements whose domain matches, is a superset of, or approximates the domain of the developmental standard data element.

Repeat this procedure until an appropriate generic element is found or until all appropriate choices are exhausted. If all appropriate choices have been exhausted, go to Step 6.

(6) Select the approved, modified, or candidate generic element whose attributes are closest to the required structure for the developmental standard data element attributes.

If required, work with a functional expert and determine necessary modifications to the selected approved, modified, or candidate generic element and submit these changes as a modified generic element.

If no modifications are necessary, use the chosen approved, modified, or candidate generic element in the developmental standard data element name. Complete the standardization of all the attributes of the developmental standard data element. Work with a functional expert to ensure that the developmental standard data element is functionally accurate and submit the developmental standard data element as a candidate for approval by the appropriate DA.

(7) Determine the developmental generic element by reviewing the definition, the domain, and the class name of the developmental standard data element. Complete the standardization of all of the attributes of the developmental standard data element, as well as those of the developmental generic element. Work with a functional expert to ensure that the developmental generic element and the developmental standard data element are functionally correct and submit them as candidates for approval by the appropriate DA.

This is an iterative process. As a data element progresses through standardization, it is moved upward through the echelons of DoD. At each level, the DA will review the outcome of the previous level, repeat as many of the above steps as necessary, and forward.